



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/649,074

08/26/2003

William L. Black

VS-00614

4638

23720 7590 06/25/2008
WILLIAMS, MORGAN & AMERSON
10333 RICHMOND, SUITE 1100
HOUSTON, TX 77042

EXAMINER

PAUMEN, GARY F

ART UNIT

PAPER NUMBER

2833

MAIL DATE

DELIVERY MODE

06/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM L. BLACK and STEVEN J. MARIAN

Appeal 2008-0652
Application 10/649,074
Technology Center 2800

Decided: June 25, 2008

Before KENNETH W. HAIRSTON, JOHN A. JEFFERY,
and R. EUGENE VARNDOLL, JR., *Administrative Patent Judges*.

VARNDOLL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejections of claims 1-24 and 27-30. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

STATUS OF CLAIMS

Claims 1-24 and 27-30 are on appeal. In the Final Rejection, the Examiner objected to claims 25 and 26 as being dependent upon a rejected base claim, but as being allowable if rewritten in independent form including all of the limitations of the base claim (i.e., claim 18) and any intervening claims (i.e., claim 24) (Final Rej. 3).

RELATED APPLICATION

The Examiner relies on copending Application 10/679,180 filed on October 3, 2003 in a provisional double patenting rejection under § 101 of claims 1-14 and 18-24 on appeal (Ans. 3). The copending Application is also on appeal (Appeal No. 2008-0891).

STATEMENT OF THE CASE

Appellants' invention relates to an interconnect for an attitude control device, such as deployed on a guided missile. The interconnect comprises a bus adapted to provide a bus signal to the attitude control device and a plurality of electrical contacts external to the attitude control device. The plurality of contacts is capable of providing a signal indicative of a physical location of the attitude control device when the attitude control device is installed.¹

The Examiner relies on the following prior art reference to show unpatentability:

| | | |
|------|--------------|---------------|
| Card | US 5,576,698 | Nov. 19, 1996 |
|------|--------------|---------------|

¹ See generally Spec. 1-4.

The issues raised on appeal are:

1. Did the Examiner err in provisionally rejecting claims 1-14 and 18-24 under 35 U.S.C § 101 as claiming the same invention as that of claims 1-11 and 13-29 of copending Application 10/679,180? This issue turns on the interpretation of the expressions “attitude control device” in the claims on appeal and the “location dependent device” in the claims of the copending Application, and whether these expressions define identical subject matter within the meaning of 35 U.S.C § 101.
2. Did the Examiner err in rejecting claims 1-3, 5, 6, 8, 14, 18, 19, and 22-24 under 35 U.S.C. § 102(b) as being anticipated by Card? This issue turns on whether Card teaches all structural elements recited in the claims on appeal within the meaning of 35 U.S.C. § 102(b).
3. Did the Examiner err in rejecting claims 4, 7, 15-17, and 27-30 under 35 U.S.C. § 103(a) as being unpatentable over Card? This issue turns on whether the Examiner has established a prima facie case of obviousness for the claims on appeal within the meaning of 35 U.S.C. § 103(a) based on the teachings of Card.

For clarity, we reproduce independent claim 1 on appeal and independent claim 1 of the copending Application (“Co. App.”) as follows. The differences between the claims are italicized for emphasis.

Application 10/649,074 On Appeal

Copending Application 10/679,180

1. An interconnect for an
attitude control device, comprising:

1. An interconnect for a *location*
dependent device, comprising:

at least one bus adapted to provide at least one bus signal to the *attitude control* device; and

a plurality of electrical contacts external to the *attitude control* device and capable of providing a signal indicative of a physical location of the *attitude control* device when the *attitude control* device is installed.

at least one bus adapted to provide at least one bus signal to the *location dependent* device; and

a plurality of electrical contacts external to the *location dependent* device and capable of providing a signal indicative of a physical location of the *location dependent* device when the *location dependent* device is installed.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Appeal Brief filed on May 5, 2006 and the Examiner's Answer mailed on October 13, 2006 for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make in their Appeal Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OPINION

Claim Construction

At the outset, we construe claim 1 based on the Specification and Appellants' arguments. We look to the Specification of the present application and the Copending Application to construe the meanings of the terms "location dependent device" and "attitude control device," *Phillips v. AWH Corp.* 415 F.3d 1303, 1315 (Fed. Cir. 2005). Appellants explain that the preamble recitation of "[a]n interconnect for an attitude control device" in claim 1 on appeal and the preamble recitation of "[a]n interconnect for a location dependent device" in claim 1 of the Copending Application imply a structural limitation and therefore must be treated as claim limitations (Br.

8). We agree that claim 1 on appeal requires an attitude control device. This interpretation is supported by the fact that the first paragraph of claim 1 refers back to and repeats the requirement that the interconnect comprises the attitude control device.

The first paragraph of claim 1 on appeal also requires at least one bus electrically connected to the attitude control device, so that the at least one bus signal can be transmitted to the attitude control device. If not so connected, the at least one bus cannot transmit a signal to the attitude control device. *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006), citing *In re Dandy*, 263 F.2d 844, 847 (CCPA 1959) (limiting claims to require that the claimed device actually be connected to an alternating current source because, although the claims “do not positively recite a source of alternating current as an element of the claims,” any other interpretation would render certain language in the claims meaningless).

The second paragraph of claim 1 on appeal requires a plurality of electrical contacts external to the attitude control device. The plurality of electrical contacts has a structure capable of providing a signal indicative of a physical location of the attitude control device when the attitude control device is installed. Representative structures where the plurality of electrical contacts is capable of providing a signal indicative of a physical location of the attitude control device when the attitude control device is installed are discussed on pages 9 and 10 and shown in Figures 3A to 3C, 4A, and 4B of the Specification.

One such structure includes an arrangement where a first electrical contact (305) provides the reference voltage to second electrical contact(s) (310(1-6)) as illustrated in Figure 3A, while other of the second contacts

have no connection to the first electrical contact (Spec. 9). Figure 3B illustrates an alternative structure, where a plurality of fuses (320) is formed intermediate the first electrical contact (305) and the second electrical contacts (310(1-6)) (Spec. 9). Figure 3C illustrates another alternative structure, where a circuit element (325), which includes a resistor, a capacitor, a voltage reference circuit, and the like, is arranged between a first electrical contact (330) and a second electrical contact (335) (Spec. 9-10). Figures 4A and 4B show the installation of the attitude control device into the plurality of contacts, whereupon the signal indicating the location of the attitude control device is generated along the bus. While not limited to the structures shown in Figures 3A to 3C, we construe the limitation, a plurality of contacts capable of providing a signal indicative of the physical location of the attitude control device when the attitude control device is installed, to define an arrangement of the plurality of contacts alone or a plurality of contacts in conjunction with other structures that collectively have the property of providing a signal indicative of a physical location of the attitude control device when the attitude control device is installed.

In conclusion, we construe claim 1 on appeal to define:

an interconnect comprising an attitude control device connected to a plurality of electrical contacts through a bus,

the plurality of electrical contacts being external to the attitude control device, and

the plurality of contacts having an arrangement of contacts alone or an arrangement of contacts with additional structure(s) that is capable of providing a signal indicative of a physical location of the

attitude control device when the attitude control device is installed into the plurality of contacts.

The § 101 Double Patenting Rejection

Claims 1-14 and 18-24 on appeal stand rejected under 35 U.S.C. §101 as claiming the same invention as that of claims 1-11 and 13-19 of copending Application 10/679,180 (Ans. 3). We reverse this rejection.

As shown in the claim comparison on page 3 of this Decision, the differences between claim 1 on appeal and claim 1 of the copending Application include the words “attitude control” of claim 1 on appeal being replaced with the words “location dependent” in claim 1 of the copending Application. The Examiner takes the position that the sole difference between the claim sets is the intended use (Ans. 3). The Examiner argues that the intended use of the claimed inventions does not result in a structural difference between the invention claimed on appeal and that in the Copending Application (Ans. 3). Therefore, the claim sets are not patentably distinct (Ans. 3).

As previously mentioned, we construe claim 1 on appeal to require an interconnect including an “attitude control device.” In a similar manner, we construe claim 1 of the copending Application to require an interconnect including a “location dependent device.” The Specification of the copending Application describes that location dependent devices include motors and/or sensors that are typically installed in various positions on a vehicle to detect location dependent events and/or perform location dependent actions (Co. App. Spec. 2). One example is a plurality of sensors deployed at a corresponding plurality of positions around an automobile in order to detect

impacts at one or more of the plurality of positions (e.g., sensor for air bags in an automobile) (Co. App. Spec. 2). Another example of a location dependent device is an attitude control device, which deploys a plurality of attitude control motors at a plurality of locations on a guided missile (e.g., motors used to change the heading of the guided missile so that the guided missile travels in a desired direction) (Spec. 2; Co. App. Spec. 2). While a “location dependent device” includes both these examples, an “attitude control device” only includes the second example. Thus, a “location dependent device” has a meaning broader than an “attitude control device” that includes an “attitude control device.” Based on these facts, a “location dependent device” is not the same as or is not identical to an “attitude control device.” Therefore, the claims on appeal and those of the copending Application do not define the "same invention" within the context of 35 U.S.C. § 101. *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Vogel*, 422 F.2d 438 (CCPA 1970).

Accordingly, we will not sustain the Examiner’s provisional rejection of independent claim 1 under § 101 or dependent claims 2-14 for similar reasons. Likewise, we will also not sustain the Examiner’s provisional rejection under § 101 of claims 18-24 for similar reasons.

The Anticipation Rejection

Claims 1-3, 5, 6, 8, 14, 18, 19, and 22-24 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Card. We reverse this rejection.

The Examiner argues that the teachings of Card disclose an interconnect comprising a bus (aL) with a plurality of contacts connecting it to a device MC’, referring to Figure 2 of Card (Ans. 3). The Examiner

dismisses the preamble and expressions in claim 1 on appeal including the words "capable of" and "adapted to," as being functional in nature and not positively reciting structural limitations (Ans. 5-6).

The Examiner incorrectly interprets claim 1 on appeal. As discussed in the above Claim Construction, we construe the second paragraph of claim 1 to require an interconnect comprising an attitude control device connected to a plurality of electrical contacts through a bus, the plurality of electrical contacts being external to the attitude control device, and the plurality of electrical contacts having an arrangement of contacts alone or an arrangement of contacts with additional structure(s) capable of providing a signal indicative of a physical location of the attitude control device when the attitude control device is installed therein.

Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. *RCA Corp. v. App. Dig. Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983). Since the Examiner has not shown were Card teaches all structural elements recited in claim 1 on appeal, the Examiner has not established a prima facie case of anticipation. Therefore, the anticipation rejection is reversed.

The Obviousness Rejections

Claims 4, 7, 15-17, and 27-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Card in two separate rejections. We reverse these rejections.

In rejecting claims under 35 U.S.C. §103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Previously, we explained that the teachings of Card do not teach an interconnect comprising an attitude control device connected to a plurality of electrical contacts through a bus, the plurality of electrical contacts being external to the attitude control device, and the plurality of contacts having an arrangement of contacts alone or an arrangement of contacts with additional structure(s) that is capable of providing a signal indicative of a physical location of the attitude control device when the attitude control device is installed therein. Due to these deficiencies in the teachings of Card, we cannot sustain the obviousness rejections.

Furthermore, on page 10 of the Appeal Brief, Appellants argue that:

Card is completely silent with regard to the *physical location* of the modules coupled to the bus and therefore fails to teach or suggest a plurality of electrical contacts capable of providing a signal indicative of a *physical location* of an attitude control device when the attitude control device is installed, as set forth in independent claims 1 and 18. (Emphasis Appellants')

The Examiner concedes that the address described by Card may not indicate a physical address (Ans. 6) and does not explain how or why the aforesaid limitations would have been obvious in view of the teachings of Card.

Without a factual basis in the record showing the obviousness of the limitations, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, we cannot sustain the § 103(a) rejections of

Appeal 2008-0652
Application 10/649,074

appealed claims 1 and 18 and any dependent claims based thereon. *See Graham*, 383 U.S. at 17.

CONCLUSION

1. The Examiner's decision provisionally rejecting claims 1-14 and 18-24 under 35 U.S.C § 101 as claiming the same invention as that of claims 1-11 and 13-19 of Copending Application 10/679,180 is reversed.
2. The Examiner's decision rejecting claims 1-3, 5, 6, 8, 14, 18, 19, and 22-24 under 35 U.S.C. § 102(b) as being anticipated by Card is reversed.
3. The Examiner's decisions rejecting claims 4, 7, 15-17, and 27-30 under 35 U.S.C. § 103(a) as being unpatentable over Card are reversed.

REVERSED

KIS

WILLIAMS, MORGAN & AMERSON
10333 RICHMOND, SUITE 1100
HOUSTON TX 77042